743, 745 (Fed. Cir. 1999). To establish inherency, the Office Action must set forth some basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Ex parte Stanley B. Levy, 17 U.S.P.Q.2D 1461 (Bd. Pat. Appeals and Int. 1990) citing In re King, 801 F.2d 1324, 231 U.S.P.Q. 136 (Fed. Cir. 1986).

The IBM Bulletin discloses taking a uniformly charged dielectric film and placing the film on a xerographic plate. We note that the film possesses an electric charge prior to being placed on the xerographic plate. The charge on the film is of a polarity opposite the polarity of the intrinsic charge on the xerographic plate. The image of a document is then projected onto the film and the plate, which causes conduction of the photoconductive material, which, in turn, causes an increase in electrostatic field strength in the exposed areas of the film. Again we note that the film possesses an electric charge. The pattern of increased electrostatic field strength formed on the film corresponds to the image of the document. It is only after this point, i.e., after the point at which the film possesses electric charge, that the film is exposed to vapor. The vapor softens the film. The IBM Bulletin explains that the variations in the electrostatic charge across the film cause the softened film to deform. Again, the "variations in the electrostatic charge" were induced by the exposing the film to the image --not through exposure to vapor. The IBM Bulletin does not teach, and there is no basis for assuming, that exposing the styrene coated polyethylene terephthalate film to vapor imparted electret properties to the film. Moreover, the method of the IBM Bulletin relies on the differences in the electrostatic charge field across the film to form the image being processed. If the vapor had imparted an electret charge to the pattern, the charge might interfere with or alter the image being produced, which would be counterproductive to the objective of the method of the IBM Bulletin. Accordingly, the assumption that an electret is inherently produce by exposure to vapor is not well founded.

IBM Bulletin is further deficient in that the vapor introduced into the chamber is not condensed from the atmosphere of the chamber onto the substrate. The IBM Bulletin mentions nothing about condensing vapors onto the film. Instead the IBM Bulletin describes exposing the film to vapor in a chamber. Vapor is not the same as a condensate. To the contrary, vapor is a gas and condensate is a liquid. Condensation

also does not inherently occur in the method of the IBM Bulletin. Nowhere in the IBM Bulletin is there a teaching of altering the system so as to change the vapor present in the chamber from a gaseous state to a liquid state, thereby causing the vapor to condense on the substrate. The fact that the film softens is of no matter to the issue of condensation. Just as a cracker will adsorb water from the atmosphere, a film can adsorb vapors from the atmosphere. Adsorption can occur without vapor molecules undergoing a phase change to a liquid, i.e., without undergoing condensation. Vapor can be adsorbed directly from the atmosphere. Thus, it has not been established that condensation onto a dielectric article is inherently occurring in the method disclosed in the IBM Bulletin. In light of the above, Applicants submit that the rejection of claim 1 under 35 U.S.C. § 102(b) is unwarranted and respectfully request that it be withdrawn.

Claims 1, 3-4, 7 and 10-11 stand rejected under 35 U.S.C. § 102(b) over Sidles et al. (U.S. 4,351,789).

Sidles et al. disclose a molding process in which a liquid material that has a boiling point above the ambient temperature of the work area but below the temperature at which the article is to be molded is applied to the surface of a mold cavity. Sidles et al. explain that it is desirable to add a surfactant to the liquid to insure wetting of the surfaces to be coated. The liquid coating flash vaporizes and exhausts through the vapor release passages, exhausting with it air that was entrapped within the mold cavity when the mold was closed.

As stated above, claim 1 requires condensing vapor from an atmosphere of a controlled environment onto a dielectric article. The rejection of claim 1 over Sidles et al. is based on the assumption that Sidles et al. disclose a dielectric article and that an electret is inherently formed when practicing the molding method of Sidles et al. These assumptions are not well founded. Sidles et al. refer to rubber <u>compositions</u> and plastic materials, but provide no information as to the components included in these compositions and materials. It is undisputed that plastic materials are not inherently dielectric. Rubber compositions also may not be inherently dielectric. Rubber compositions, particularly those used in the manufacture of tires, often include components such as carbon black, which is a conductive additive. See, e.g., Anatomy of a Tire, which is attached at Exhibit 1. It has not been shown that a rubber tire that

includes carbon black is inherently dielectric. Because the record does not contain any information as to the components of the rubber compositions referred to in Sidles et al., it cannot be held that the rubber compositions disclosed in Sidles et al. are necessarily dielectric. Accordingly, Sidles et al. do not inherently anticipate the invention of claim 1. Applicants submit, therefore, that the rejection of claim 1 under 35 U.S.C. § 102(b) over Sidles et al. is unwarranted and request that it be withdrawn.

Claims 1-4, 7, 12, and 22 stand rejected under 35 U.S.C. § 102(b) over Popov et al. (Russian Document No. 423483).

Popov et al. disclose passing liquid vapor through a cloth followed by removal of liquid vapor with blowing air. In the Examples, Popov et al. describe passing air saturated with vapors of isopropyl alcohol, methanamide [sic], ethyl alcohol or dimethylformamide through a layer of polypropylene or polyamide filaments and removing the "condenced" [sic] liquid by blowing clean air though the layer.

Claim 1 recites condensing vapor from an atmosphere of a controlled environment. Applicants do not concede that Popov et al. teach condensing vapor as that term is used in Applicants' Specification and claims. The fact that the translation of Popov et al. includes the word "condenced" [sic] in Example 1 is not dispositive of the issue. For condensation to occur energy must be added to or removed from the system causing vapors to condense from the gaseous state to the liquid state. The Examiner recognizes this principle as demonstrated by the statements pertaining to the rejection of claim 7 at page 5 of the April 11, 2001 Office action. Popov et al. do not teach this requisite change in energy. Instead Popov et al. disclose passing liquid vapor through a cloth. Such a process does not inherently lead to condensation. In addition, in Example 1, Popov et al. describe passing air saturated with vapors through a layer of filaments. There is nothing in the method described in Example 1 of Popov et al. that would cause the vapors to condense. Moreover, the description at the top of page 2 of Popov et al. describes removing <u>liquid vapors</u> –not condensed liquid-- from the cloth by blowing air. Thus, the Popov et al. reference taken as a whole does not teach condensing vapor as that term is used in claim 1. Popov et al. thus lack a required element of the method of claim 1. Applicants submit, therefore, that the rejection of claim 1 under 35 U.S.C. § 102(b) over Popov et al. is unwarranted and request that it be withdrawn.

Claims 1-4, 7, 9-11, 14-17, and 22 stand rejected under 35 U.S.C. § 103 over Angadjivand et al. (U.S. 5,496,507) in view of Pike et al. (U.S. 5,759,926).

Angadjivand et al. disclose hydrocharging a web by impinging jets of water or a stream of water droplets onto the web at a pressure sufficient to provide the web with a filtration enhancing electret charge.

Pike et al. disclose a splittable conjugate fiber that includes at least two incompatible polymer components that are arranged in distinct segments across the cross-section of the fiber along the length of the fiber. The fibers can be split with a hot aqueous split-inducing medium. Pike et al. disclose that the fibers can be passed through a hot water bath. Alternatively, hot water or steam can be sprayed on the fibers or fabrics produced from the fibers to split the fibers.

Claim 1 requires condensing vapor from the atmosphere of a controlled environment. It is undisputed that Angadjivand et al. fail to teach or suggest a method of forming an electret that includes condensing vapor from the atmosphere of a controlled environment. Rather, Angadjivand et al. disclose hydrocharging a web by impinging jets of water or a stream of water droplets onto the web at a pressure sufficient to provide the web with a filtration enhancing electret charge. Angadjivand et al. explain that pressures in the range of about 10 to 500 psi are suitable.

Pike et al. do not cure the deficiencies of Angadjivand et al. Nothing in Pike et al. teaches or suggests using steam to impart an electret charge to a fibrous web. Moreover, the purpose for which Pike et al. suggests applying hot water or steam to fibers is to <u>split</u> the fibers. Pike et al. do not teach or suggest that splitting fibers has any relation to producing an electret. Accordingly the skilled artisan would have no reason to combine Angadjivand et al. and Pike et al. in the manner proposed in the Office action.

Applicants further note that, contrary to the assertions in the Office action, Pike et al. do not teach that "meltblown microfiber webs can be thoroughly wetted by passing the web through a hot water bath, spraying the webs with water or spraying the webs with steam" (see, April 11, 2001 Office action, page 7). Rather, Pike et al. disclose, "any process [can be employed] that is capable of thoroughly <u>contacting</u> the fibers and fabrics" (emphasis added). Pike et al. do not teach that "thoroughly contacting" is synonymous with "thoroughly wetting." In addition, in contrast to the assertions in the Office action,

Angadjivand et al. do not state that it is desirable to thoroughly wet an article. Thus, the alleged motivation for combining Pike et al. with Angadjivand et al. does not exist. Accordingly, the premise on which the rejection of claim 1 under 35 U.S.C. § 103 over Angadjivand et al. in view of Pike et al. is based is not sound. Applicants submit, therefore, that the rejection of claim 1 under 35 U.S.C. § 103 over Angadjivand et al. in view of Pike et al. is unwarranted and request that it be withdrawn.

The remaining rejections of claims 10, 11 and 13 under 35 U.S.C. § 103 over Popov et al. in view of the secondary reference of Coufal et al. and claims 14-17 under 35 U.S.C. § 103 over Popov et al. in view of the secondary reference of Angadjivand et al. are based upon the above-refuted premise that Popov et al. disclose condensing vapor from the atmosphere of an to form an electret. Accordingly, Applicants submit that the rejection of claims 10, 11 and 13 under 35 U.S.C. § 103 over Popov et al. in view of Coufal et al. and claims 14-17 under 35 U.S.C. § 103 over Popov et al. in view of Angadjivand et al. cannot stand and request that they be withdrawn.

Applicants submit that the claims now pending are in condition for allowance and such action is respectfully requested. The Examiner is invited to telephone the undersigned should a teleconference interview facilitate prosecution of this application.

Please charge any additional fees or credit any over payments to Deposit Account No. 501,171.

Respectfully submitted,

Date: August 5, 2002

Allison Johnson
Reg. No. 36,173

Allison Johnson, P.A.
6016 Logan Ave. S.
Minneapolis, MN 55419
Telephone (612) 861-8621
Facsimile (612) 861-8628

EXHIBIT 1

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Anatomy of a Tire

1. Typical Materials Composition of a Tire

This table lists the typical types of materials used to manufacture tires.
Typical Composition of a Tire Synthetic Rubber Natural Rubber Sulfur and sulfur compounds Silica Phenolic resin Oil: aromatic, naphthenic, paraffinic Fabric: Polyester, Nylon, Etc. Petroleum waxes Pigments: zinc oxide, titanium dioxide, etc. Carbon black Fatty acids Inert materials Steel Wire

2. Typical tire compositions by Weight[1)]

This lists the major classes of materials used to manufacture tires by the percentage of the total weight of the finished tire that each material class represents.

Passenger Tire

Natural rubber	14 %
Synthetic rubber	27%
Carbon black	28%
Steel	14 - 15%
Fabric, fillers, accelerators,antiozonants, etc.	16 - 17%
Average weight:	New 25 lbs, Scrap 20 lbs.

Truck Tire

Natural rubber	27 %
Synthetic rubber	14%
Carbon black	28%
Steel	14 - 15%
Fabric; fillers, accelerators,antiozonants, etc.	16 - 17%
Average weight:	New 120 lbs., Scrap 100 lbs.

3. Rubber weight by tire component[1)]

A tire is manufactured from several separate components, such as tread, innerliner, beads, belts, etc. This table shows which components account for the rubber used to make the tire.

RUBBER PERCENT BY WEIGHT IN A NEW RADIAL PASSENGER TIRE

TREAD	32.6%
BASE	1.7%
SIDEWALL	21.9%
BEAD APEX	5.0%
BEAD INSULATION	1.2%
FABRIC INSULATION	11.8%
INSULATION OF STEEL CORD	9.5%
INNERLINER	12.4%
UNDERCUSHION	3.9%
	100.0%

4. Examples of Rubber Compounds for Tire[2),3)]

These examples are chosen to show a diversity of the tire compounds which make it difficult to reuse these into new tire materials. Each manufactures have developed their own compounds for paticular usage.

	Tread (PHR)	Base (PHR)	Sidewall (PHR)	Innerliner (PHR)
Natural Rubber	50.0	100.0	75.0	
Styrene-Butadiene Rubber	50.0		25.0	
Isobutylene-Isoprene Rubber				100.0
Carbon Black (Grade N110)	50.0	15.0	20.0	
Carbon Black (Grade N330)		25.0	35.0	
Carbon Black (Grade N765)				50.0
Processing Oil	7.5	5.0	5.0	3.0
Antioxidant	1.0	0.75	1.0	1.0
Antioxidant Wax			2.0	
Stearic Acid	2.0	4.0	3.0	1.5
Zinc Oxidant	5.0	5.0	5.0	5.0
Accelerator (High)		1.0	0.7	
Accelerator (Middle)	1.25			0.4
Accelerator (Low)				0.4
Sulfur	2.5	3.0	2.8	2.0

*PHR = Per Hundred Rubber
*Carbon grade = ASTM grading : Particle size and structure of carbon are different.

5. Steel Tire Cord Analysis[1)]

<u>ASTM 1070 Steel Tire Wire</u>

There are approximately 2.5 pounds of steel belts and bead wire in a passenger car tire. This material is made from high carbon steel with a nominal tensile strength of 2,750 MN/m2 and the following typical composition:

	STEEL BELTS	BEAD WIRE
Carbon	0.67 - 0.73%	0.60% min.
Manganese	0.40 - 0.70%	0.40 - 0.70%
Silicon	0.15 - 0.03%	0.15 - 0.30%
Phosphorus	0.03% max.	0.04% max.
Sulfur	0.03% max.	0.04% max.
Copper	Trace	Trace
Chromium	Trace	Trace
Nickel	Trace	Trace
COATING	66% Copper 34% Zinc	98% Brass 2% Tin

References

1. Scrap Tire Management Council
2. James E. Mark, Burak Erman, Frederick R. Eirich. "Science and Technology of Rubber" 1994 Academic Press Inc.
3. G. Alliger, I. J. Sjothun. "Vulcanization of Elastomers" 1963 Reinhold Publishing Co.

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CLEAN VERSION OF THE AMENDED AND NEW CLAIMS

1.(Amended) A method of making an electret comprising:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article to form a condensate thereon, said dielectric article having a resistivity of greater than 10^{14} ohms-cm; and

drying the article to remove the condensate.

25.(New) A method of making an electret, which method comprises:

placing a dielectric article in the liquid of a controlled environment;

condensing vapor from the atmosphere of the controlled environment onto the dielectric article to form a condensate thereon;

decreasing the pressure on the atmosphere of said controlled environment such that at least a portion of the liquid evaporates into the atmosphere; and then

drying the article.

26.(New) A method of making an electret, which method comprises:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article to form a condensate thereon, said condensing comprising increasing the pressure on the atmosphere of the controlled environment such that the vapor condenses on the article; and then

drying the article.

27.(New) A method of making an electret, which method comprises:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article by an adiabatic expansion to form a condensate on the dielectric article; and then

drying the article

28.(New) A method of making an electret, which method comprises:

altering a first property of a controlled environment comprising atmosphere and liquid such that at least a portion of the liquid evaporates into the atmosphere to form vapor;

altering a second property of the environment such that the vapor condenses on the surface of a dielectric article; and then

drying the article.

29.(New) The method of claim 28, wherein the first property is selected from the group consisting of pressure, volume or temperature, or a combination thereof, and wherein the second property is selected from the group consisting of pressure, volume or temperature, or a combination thereof.

30.(New) The method of claim 29, wherein the first property comprises pressure and the second property comprises pressure.

31.(New) The method of claim 29, wherein the first property comprises volumen and the second property comprises volume.

32.(New) A method of making an electret, which method comprises:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article to form a condensate thereon, the dielectric article comprising a nonconductive polymeric material, and the condensate comprising a polar liquid; and

drying the article to form an electret exhibiting a persistent electric charge.

33.(New) A method of making an electret comprising:

altering at least one property of a controlled environment so as to cause the vapor of the atmosphere of the controlled environment to condense on a dielectric article having a resistivity of greater than 10^{14} ohms-cm; and

drying the article to remove the condensate.

MARKED-UP VERSION OF THE AMENDED AND NEW CLAIMS

1.(Amended) A method of making an electret comprising:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article to form a condensate thereon, <u>said dielectric article having a resistivity of greater than 10^{14} ohms-cm</u>; and

drying the article to remove the condensate.

25.(New) A method of making an electret, which method comprises:

placing a dielectric article in the liquid of a controlled environment;

condensing vapor from the atmosphere of the controlled environment onto the dielectric article to form a condensate thereon;

decreasing the pressure on the atmosphere of said controlled environment such that at least a portion of the liquid evaporates into the atmosphere; and then

drying the article.

26.(New) A method of making an electret, which method comprises:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article to form a condensate thereon, said condensing comprising increasing the pressure on the atmosphere of the controlled environment such that the vapor condenses on the article; and then

drying the article.

27.(New) A method of making an electret, which method comprises:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article by an adiabatic expansion to form a condensate on the dielectric article; and then

drying the article.

28.(New) A method of making an electret, which method comprises:

altering a first property of a controlled environment comprising atmosphere and liquid such that at least a portion of the liquid evaporates into the atmosphere to form vapor;

altering a second property of the environment such that the vapor condenses on the surface of a dielectric article; and then

drying the article.

29.(New) The method of claim 28, wherein the first property is selected from the group consisting of pressure, volume or temperature, or a combination thereof, and wherein the second property is selected from the group consisting of pressure, volume or temperature, or a combination thereof.

30.(New) The method of claim 29, wherein the first property comprises pressure and the second property comprises pressure.

31.(New) The method of claim 29, wherein the first property comprises volumen and the second property comprises volume.

32.(New) A method of making an electret, which method comprises:

condensing vapor from the atmosphere of a controlled environment onto a dielectric article to form a condensate thereon, the dielectric article comprising a nonconductive polymeric material, and the condensate comprising a polar liquid; and

drying the article to form an electret exhibiting a persistent electric charge.

33.(New) A method of making an electret comprising:

altering at least one property of a controlled environment so as to cause the vapor of the atmosphere of the controlled environment to condense on a dielectric article having a resistivity of greater than 10^{14} ohms-cm; and

drying the article to remove the condensate.